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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,331	07/23/2003	Derald Christians	1950	7758

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EXAMINER

SAFAVI, MICHAEL

ART UNIT	PAPER NUMBER
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3673

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/625,331

Applicant(s)

CHRISTIANS ET AL.

Examiner

M. Safavi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-4 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/09/05.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not appear to have originally disclosed the limitation of “pumping cement-based grout, *without an added expansion agent or an added hardening agent...*” as now appears in each of claims 1 and 2. The specification does not appear to have originally disclosed the limitation of “whereby said pile member is secured without excavating any soil material, but rather soil material is consolidated by the introduction of grout material introduced under controlled pressure” as now appears in each of claims 3 and 4.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear as to what is being defined in each of claims 1 and 2 by the recitation "pumping cement-based grout, without an added expansion agent or an added hardening agent..." as the specification does not provide an adequate description of such a limitation.

It is not clear as to what is being defined in each of claims 3 and 4 by the recitation "whereby said pile member is secured without excavating any soil material, but rather soil material is consolidated by the introduction of grout material introduced under controlled pressure" as the specification does not provide an adequate description of such a limitation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Abe et al. Abe et al.

discloses a method of pile formation involving introducing a first tubular pile member 13 having a terminating end into the soil, such that said terminating end is situated below what could be considered very unstable material, (i.e., the upper layer of soil material). Cement-based grout is pumped under controlled pressure through said tubular pile member 13 and into what could be considered semi-stable material, (i.e., the layer of

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soil below and adjacent the upper layer material), with grout forming a grout mass 19 below the tubular member. The pile member 13 is then lowered into said grout mass, col.1, line 62 to col. 2, line 5. A second tubular member 11 is inserted within the pile with cement grout being introduced through the second tubular member 11.

As mentioned in this rejection the upper layer of soil in Abe et al. would constitute a "very unstable layer" while the immediately lower and adjacent layer of soil would constitute a "semi-stable layer" since there appears no specific distinction in the claim language as to degree of soil stability, (very unstable versus semi-stable), or as to what constitutes a very unstable soil layer and a semi-stable soil layer. However, it would have been obvious to one having ordinary skill in the art to have applied the pile or piling method to, along or within an area of land possessing varying degrees of soil stability between an uppermost layer and an adjacent lower layer while forming the pile through one layer and into another layer since formation of grout or concrete piling can be utilized to support and stabilize structures lying upon any given area of terrain and would embrace stabilization of the soil there around.

Further, Abe et al. meets the limitation to "pumping cement-based grout, without an added expansion agent or an added hardening agent..." since such a limitation can read upon any added expansion agent or an added hardening agent. The instant specification fails to clearly set forth what "without an added expansion agent or an added hardening agent" is defining. Since Abe et al. does not disclose all possible expansion agents or hardening agents Abe et al. is considered to perform the claimed operation "without an added expansion agent or an added hardening agent." Also, the

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grout of Abe et al. includes the components of hardening material 20 as well as calcium sulfoaluminate thus one of ordinary skill in the art would see Abe et al. as possessing a grout of solidifying material 19/hardening material 20/calcium sulfoaluminate "without an added expansion agent or an added hardening agent."

Likewise, Abe et al. meets the limitation to "whereby said pile member is secured without excavating any soil material, but rather soil material is consolidated by the introduction of grout material introduced under controlled pressure." The instant specification fails to clearly set forth what "whereby said pile member is secured without excavating any soil material, but rather soil material is consolidated by the introduction of grout material introduced under controlled pressure" is defining. The Abe et al. process involves "consolidating soil material" at least along the edges of the grout mass, col. 1, lines 64-65. And, the pile member 13 of Abe et al. is secured "without excavating any soil material" since at the point of securing the pile in the final position no excavation takes place. The pile 13 is merely inserted into the grout mass, col. 2, lines 2-4.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. in view of Newton.

Newton discloses, Figs.4-7, a method of securing a pile member in soil comprising the steps of introducing cement-based grout under controlled pressure through a tubular member 13 and withdrawing said tubular member as the grout 27 is pumped therethrough, page 2, line 57-62 and lines 89-99, yielding a generally columnar

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grout formation that is generally in vertical alignment with and substantially below said first tubular member.

To have formed the cement piling of Abe et al. as by withdrawing the second tubular member 11 while the cement grout is being pumped into formation, thus allowing a continuous and balanced distribution of the cement grout within the opening, would have been obvious to one having ordinary skill in the art at the time the invention was made as taught by Newton. Further, it would have been obvious to one having ordinary skill in the art to have applied the Abe et al. pile or piling method to, along or within an area of land possessing varying degrees of soil stability between an uppermost layer and an adjacent lower layer while forming the pile through one layer and into another layer since formation of grout or concrete piling can be utilized to support and stabilize structures lying upon any given area of terrain and would embrace stabilization of the soil there around.

Response to Arguments

Applicant's arguments filed March 03, 2005 have been fully considered but they are not persuasive. Reference is made to the third and fourth paragraphs within the above of claims 1 and 3 involving Abe et al.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Safavi whose telephone number is (571) 272-7046. The examiner can normally be reached on Mon.-Thur., 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford can be reached on (571) 272-7049. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



**MICHAEL SAFAVI
PRIMARY EXAMINER
ART UNIT 354**

M. Safavi
May 10, 2005